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"Æquam memento rebus in arduis
Servare mentem."—*Horace,* Book ii, Ode iii.

Clinical Lecture on Two Typical Cases of Progressive Muscular Atrophy.

By DR. ORMEROD.

WASTING of muscle may occur under very many conditions, such as disuse of a limb, disease of a joint (apart from disuse), injury or disease of a nerve-trunk or nerve-root, local disease of the spinal cord, or even in hemiplegia or hysteria.

But of some cases wasting and weakness of muscle are the dominant, if not the only clinical symptoms, getting worse as the disease progresses, and spreading by degrees from one muscle, or group of muscles, to another. These cases have long been known as "progressive muscular atrophy," and they have a definite morbid anatomy as well as a definite clinical aspect.

They fall into two main types: the first is known as primary, or idiopathic, or myopathic muscular atrophy, because the disease is seated in the muscle itself, the nerve-centres being intact; the second is called secondary, or myelopathic, or spinal muscular atrophy, because the disease is seated in the anterior cornual cells of the spinal cord. And since these are the nutrient centres for the muscles their destruction entails atrophy of the muscles they support.

I will show you a well-marked example of each type. You must not forget that there are intermediary cases and sub-types, but I pass them over, partly for simplicity and partly because I have not specimens to hand.

It is worth while first to mention the points to which we chiefly look for a clinical distinction between the myopathic and the spinal types. They are these:

1. *The point of attack.*—Atrophy of the myopathic type commonly begins in the large muscles of the shoulder girdle, or (less frequently) of the pelvic girdle; * that of the spinal type in the small muscles of the hand.

2. *The grouping of the muscles affected.*—The nuclei of certain muscles are thought to be in close proximity to each other in the cord; if these muscles waste simultaneously it suggests that the disease is spinal, and the reverse if they do not.

3. *The condition of the muscles themselves.*—In myopathic cases we occasionally find enlargement of some muscles, or congenital absence of some. This brings the disease into close relation with pseudo-hypertrophic paralysis, in which complaint, as you are aware, the leading symptom, enlargement of muscle, may be followed by wasting, or accompanied by absence of some muscles. There is at present a good example of this in Matthew Ward. Indeed, the two diseases are often classed under

* Excepting the class of cases known as "infantile," which begin in early childhood, and where the facial muscles are affected first, the shoulder muscles later.

the general title of "muscular dystrophy." In the spinal form there is never muscular enlargement, but here, especially in a rapidly progressing case, we may often see the curious spontaneous twitching of muscular fibres and fasciculi which is called "fibrillary tremor;" this is not seen in myopathy. Lastly, the electrical reactions may differ. In myopathic cases the contractility to the coil and to the cells diminishes, but there is no reaction of degeneration; in spinal cases, particularly in those that are advancing rapidly, reaction of degeneration may sometimes be made out.

4. Certain general considerations, such as—

(α) The age of the patient at the time of onset. Myopathy attacks adolescents, or sometimes young children; spinal atrophy attacks adults.

(β) Heredity. The first of these types often runs in families; the second rarely.

(γ) Course. That of the first is very chronic; that of the second (at least for the variety which I shall show you) is more rapid, ending within some six or seven years, and often with symptoms of bulbar paralysis, which do not occur in the first.

I now show you, as an example of primary or myopathic muscular atrophy, a young woman aged 19. She is healthy in every respect save the muscular weakness and wasting. For this there exists no assignable cause; no similar disease is known in her ancestry, but the question of family proclivity cannot be fully followed out, because she is an only child. The duration of the affection is a little uncertain. She herself avers that she never could walk properly, but that no notice was taken of this. However this may be, at the age of ten she had to leave school, because she could not walk the mile distance; and about the same time she used to fall about, had difficulty in getting up from the floor, and was unable to lift heavy weights. These symptoms, which seem to point to a somewhat wide-spread initial muscular weakness, have got steadily worse.

As she sits before you in this chair (she can now neither walk nor stand) you may notice that her face is unaffected, that her body is bent forward from weakness of the erectores spinæ, that her hands are not wasted, and their power of movement is normal.

The shoulder muscles are widely affected. You can see the deficiency in the lower part of the pectorals, and in the latissimi, when she tries to depress the arms against resistance: the same manœuvre brings out the absence of the rhomboids; for the latissimus dorsi being absent, the teres major seeks to effect depression of the arm, but this muscle takes its origin from the outer and lower part of the scapula, and since there are no rhomboids to hold this bone in position, the effect is to tilt the lower angle of the scapula outwards, as you see. When she lifts her arm (the deltoid being still intact) and stretches it forward, a deep groove appears between the vertebral border of the scapula and the trunk; this is called "winging" of the scapula, and shows that the serratus magnus is too weak to keep the border of the scapula in apposition to the body. It is probable also that the levator anguli scapulæ and the lower part of the trapezius are deficient in this case.

In the lower limbs the glutei are practically powerless; the extensors of the knee and flexors of the hip are very weak; and there appears to be some feebleness of the leg muscles. The knee-jerks are absent, but you must not take this to be a sign of spinal disease; it is simply because the extensors of the knee are too crippled to respond to the blow upon their tendons.

The second case is an example of the spinal type of muscular atrophy. And since in the particular variety to which this case belongs the spinal disease is widely spread, and the symptoms therefore somewhat complex, I will briefly remind you of those parts of the nervous system which we believe to be here diseased. The motor or efferent apparatus of the central nervous system consists of two parts, formerly called "projection systems," now called the upper and lower efferent "neurons." The upper group of neurons comprise the large pyramidal cells of the cortex cerebri in the Rolandic area, and their axis-cylinder processes, which (as you know) pass down in the form of white nerve-fibres, to terminate somewhere near the large cells of the medulla and of the anterior cornua of the cord. They are grouped into the bundles known as the pyramidal tracts, bundles which form a considerable portion of the lateral columns of the cord. The lower neurons comprise the large cells of the medullary nuclei and of the anterior cornua of the cord, with their axis-cylinder processes, which form the motor nerve-roots and nerve-trunks, and which terminate in the muscles. Degeneration of either neuron entails paralysis; but in disease of the lower neuron the paralysis is of the flaccid or atrophic type,—that is to say, the muscle loses its tone, the tendon reactions disappear, the electrical reactions undergo peculiar changes, and wasting sets in; whereas in disease of the upper neuron the muscular tone is increased, the tendon reactions are exaggerated, the electrical reactions are maintained, and muscular rigidity may appear; or briefly, the paralysis is of the spastic type.

Now in this case, which is of the kind known as "amyotrophic lateral sclerosis," the disease affects both the upper and lower neuron,—that is to say, the whole motor tract, and we witness in consequence a curious combination of two things which are in a sense opposed to each other, namely, of spastic with flaccid paralysis.

The patient is a man aged thirty-eight, a commercial traveller. There had been no nervous diseases in his family; he has not had syphilis. He formerly drank somewhat freely, and was a good deal exposed to weather. He himself connects his illness with a shock that he experienced six months before the onset; he was on a scaffolding

at the launch of the "Albion," and was thrown into the water and much frightened, though apparently not physically injured. Two years ago the present affection began with weakness, at first in the right leg, then (four or five months later) in the left. He had some difficulty in holding his urine; this is not a usual symptom. A month later the left hand was affected; some four months later the right hand; there was pain, some feeling of deadness though no actual anæsthesia, and weakness and wasting of the left hand.

When I first saw him, in October, 1899, he dragged his feet in walking, his knee-jerks were exaggerated, and there was a somewhat indefinite ankle-clonus; in other words, his legs showed a commencing spastic paralysis. The muscles of the left hand were small, but not definitely wasted; the muscles of the upper limbs generally showed fibrillary tremors. The probability therefore seemed to be that the spinal nuclei of the upper limbs were degenerating, and the pyramidal tracts as well. The symptoms became more definite, though the paralysis did not spread, during the two months that he stayed in the hospital. During the present year he has become materially worse. He can barely walk; in his legs there is well-marked spastic paralysis—increased knee-jerks, ready ankle-clonus, and the modification of plantar reflex which consists in extension of the great toe. There is rigidity too, but not so extreme as might be expected; perhaps this means that the lower neurons for the legs are beginning to degenerate as well as the pyramidal tracts. Both hands are wasted, as you see; the muscles of the forearms are small, in the left limb particularly. The deltoids are weak and wasted. You can see some fibrillary tremors. In such a case we might expect the electrical reaction of degeneration, but nothing beyond diminution of electro-contractility has been demonstrated. With all this there is no affection of sensation nor paralysis of the sphincters, showing that the motor tracts are affected, and they alone. Indications of coming bulbar paralysis are present, for the tongue is thinned and slightly tremulous, and the patient is becoming emotional.

The diagnosis of amyotrophic lateral sclerosis, except in the earliest stages, is tolerably easy. There are, it is true, one or two other conditions in which the combination of atrophic paralysis of the hands and arms with spastic paraplegia may be found. One of these is chronic meningitis of the cervical region (from whatever causes) involving the nerve-roots at that level, and at the same time pressing on the cord. But here there will be more distinct sensory symptoms in the upper limbs, first pains, then anæsthesia; and the paraplegia, as the pressure on the cord advances, extends to its sensory functions, and to the functions of micturition and defæcation. Syringomyelia is another such condition; but here again the peculiar sensory paralysis, and possibly other symptoms, should prevent a mistake.

Both these patients are incurable; but while the woman's disease will probably proceed very slowly, not endangering life till she becomes absolutely bedridden, or until the atrophy attacks the muscles of respiration, the man's disease is progressing, and will progress far more rapidly. Such cases rarely live more than five or six years. The next set of paralytic symptoms will probably be bulbar, in themselves a source of danger; and meanwhile the paralysis of the limbs will spread and become intensified; he will become helpless and bedridden, and exposed to all the risks which that condition entails.

A Smallpox Epidemic in Jerusalem.

By E. W. G. MASTERMAN, D.P.H.Cantab., F.R.C.S.

TO those who, amidst the luxuries of sanitary regulations and more or less compulsory vaccination, practise in the British Isles and other such centres of civilisation, a real unchecked old-fashioned epidemic of smallpox must be an almost unknown experience. Till this year, in spite of six years spent in the Turkish Empire, the real horrors of smallpox were only known to me in medical history. As I write now, however, we are in the city of Jerusalem—a city supplied with as large a proportion of medical men, and a larger proportion by head of population of hospital beds, than most European cities, in the midst of an utterly unchecked epidemic of an extent and severity unknown to any of the residents I have met. Those familiar with all that modern sanitary science has done to meet such a visitation in Britain may imagine our position when I state that we have no law regarding vaccination, neither compulsory nor free vaccination from Government sources; not a single bed for infectious cases for the poor; neither home inspection of infected houses, nor certificates of cases of illness or death. The disease stalks from house to house, visiting in many cases every house in street after street. Fortunately a considerable number of the population are protected by *previous attacks of smallpox*, as is witnessed by the large proportion of pitted faces one sees on all hands. Another proportion—a small one to the great mass—have been vaccinated and revaccinated, either because they have themselves sufficient knowledge to have made them seek it for themselves, as, of course, has been the case with most of the better-class Europeans, *or* because they are now, or have recently been, pupils in schools managed by Europeans. For the great mass, however, of the younger inhabitants—Moslems and Jewish—the wave of smallpox has been passing over their devoted heads unchecked. It is impossible in a city where neither illnesses nor deaths are officially registered, to know how many thousands have been attacked, or how many hundreds have succumbed; but the numbers must have been large, and are still being considerably augmented.

The conditions for the spread of the disease are ideal—for the smallpox germs. Most of the poorer Jews and Moslems live in "houses" consisting of one, or sometimes two, rooms opening into a square open courtyard, common to some dozen or more "houses." Many are half underground, and almost all are ill-ventilated. When an individual of any household falls ill, members of all the other households, and neighbours from other parts, crowd into the "house" (often a very low, ill-ventilated room), and if the patient seems acutely ill the crowd becomes enormous.

About a week ago I paid a visit to a young Jewess, who was lying in a small room the ceiling of which was scarcely more than six feet above the floor. On entering the room I found certainly not less than a dozen women grouped round the bed, while the unfortunate patient was every few minutes violently vomiting. Within a few hours a profuse eruption of confluent smallpox appeared. But not only before the smallpox is recognised, but even when every one knows such cases are in the room, people of all sorts—little children, women carrying unweaned babies, anxious relatives, and officious suggesters of any conceivable quack remedy—are constantly in and out. In every case the medical man's first difficulty is to clear the room. But even then the household remain, and, as things are, to clear them out is impossible.

Three nights ago I was called to a small "house"—*i. e.* room about 10 ft. by 12 ft. On a bed at one side lay the mother of the family with malignant (hæmorrhagic) smallpox, evidently dying. Not 5 ft. off, the other side of the room, lay three little children, none, I believe, efficiently—certainly not recently—vaccinated. The husband and the mother of the patient were also sleeping in the same room. The only window—about 2 ft. by 3 ft.—opened into the common courtyard, and nothing could persuade the inhabitants to open it. I suppose a doctor's grievance in all climes is the fear by the sick of fresh air. Every window and door is usually closed, except for the few minutes of the medical man's visit, when, of course, he insists on some air for his own lungs; for, to add to the closeness and smell, the favourite and only disinfectant is the burning of dried camels' dung in the sick-room, and also at the door. The fumes are often very irritating.

So much for the surroundings. I have mentioned the houses, but what shall I say of the streets? Here children and adults, covered with half-healed sores, freely pass to and fro among the healthy. Even the healthy do not seem to mind it.

But with vaccination surely an epidemic of smallpox can be kept within bounds? But here we feel our helplessness. There is no possibility of enforcing vaccination, and we see children die from day to day who certainly might have been saved. The great majority of the poorest and most ignorant are "conscientious objectors." Not those fortunate mortals who are sheltered in England from the results of their foolishness by the hundred guards put round them—the vaccination of such a large proportion of their neighbours, the isolation of the sick, etc.,—but poor folks who reap the reward of their folly, and see their children die before their eyes.

To give one instance out of many. A month or so ago I responded to a professional call to the house of some exceedingly poor Jews. The eldest son, one of four, was ill—very seriously ill—with smallpox; and, seeing the other—all unvaccinated—children living, eating, and sleeping within six or eight feet of this boy, I begged the parents to bring the remaining children for vaccination the next morning. If I remember right, they said they would, but they never came. A second visit a few days later found the same condition, and this time I begged and entreated the parents, telling them their children's deaths would be at their doors if they did not comply; but *all in vain.* The father said "he was afraid;" the mother sheltered herself behind her husband, but evidently had no wish to comply. The natural result followed. Three weeks later the three younger ones sickened, and now two I know are dead, and I have reason to believe the remaining one is on the same road. And yet there are people who cavil at "compulsory vaccination"!

It is interesting to try and find out the source of these people's strong objections to vaccination. It is, of course, as is usual, founded on ignorance. They have a deep-rooted idea that to be vaccinated *during* an epidemic of smallpox is a very dangerous thing. I think it arises from two special sources. Firstly, there is a not unnatural confusion between vaccination and inoculation. This latter is still practised out here, and is now a fruitful source of the spread of the disease in the villages around. Government officials, even, have been doing it quite near Jerusalem.

Secondly, I have recently learned from a German physician that some ten years ago, when there was little or no vaccine obtainable, a native "quack" took some of the purulent contents of a smallpox pustule and inoculated the udders of a goat. From the sores that resulted he ino culated a number of babies' arms, with the effect that a most septic inflammation followed, leading to extensive sloughing over the arm and the axilla, and a large number of deaths. It was not vaccination at all, but inoculation of virulent *streptococci.* This has done untold harm, and now it needs hundreds of successful vaccinations to counteract the bad impression. With those who have consented to be re-vaccinated, including, of course, the vast majority of the better-class foreign residents, there has been, so far as I know, an entire immunity. Our school children, many of them living in the very midst of infection, have been quite free since re-vaccination for all has been insisted upon. We have all been using calf lymph from "*Institut Vaccinal Suisse,*" in Geneva, and many cases of re-vaccination which have failed to "take" after several trials under the old system of

arm-to-arm vaccination have now had the typical eruption. We receive supplies by post constantly. The tubes are labelled as sufficient for "one or two vaccinations," but I seldom do less than six persons, and often ten or a dozen from one tube, with perfectly satisfactory results. In hundreds of cases I have done in the past few weeks, I have never seen a single troublesome arm.

Now what have anti-vaccinators to say to this state of things? It is anti-vaccinators of Europe who are mostly to blame for its continuance. But for this apparent state of doubt as to the real value of vaccination, you may be sure the Turkish Government would have long ago brought in a law—and seen too that it was carried out—insisting on vaccination, and also on re-vaccination. But how can it be expected that Turkey should do more than such centres of enlightenment as our own home land? Perhaps the anti-vaccinators who raise the outcry that improved sanitary reform makes compulsory vaccination now unnecessary, little dream that they, by hindering legislation on the subject in such lands as this, through their outcries are more or less directly injuring thousands, indeed, one may well suppose millions. Meanwhile, I would urge all "conscientious objectors" to avoid the East, in fact to give smallpox a wide berth; for the only English "conscientious objector" I have known of, a poor girl brought up by a father of that persuasion, died of malignant smallpox here only a few years ago.

And here a native doctor, who alone in the profession was running down vaccination for some time to all his poor patients, hastily, two weeks ago, came to a German colleague to be vaccinated with all his family, after losing his sister-in-law with malignant smallpox. Not by any means a unique occurrence, for at Gloucester one of the first to come with his family to vaccination, when a well-known clergyman there opened his schoolroom for the purpose, was one who was known in the whole district as a prominent agitator against vaccination.

In conclusion, should any of the readers of this have friends going East this season, I would strongly advise them to insist on re-vaccination for all.

Some Features of Blood Pathology.

A paper read before the Abernethian Society, February 1st, 1900.

By. J. H. CHURCHILL, M.B.Lond.

IN the examination of the blood the points to which attention is be directed are:

1. The colour of the blood—hæmoglobin estimation.
2. The absolute numbers and the characters of the red blood-corpuscles.
3. The absolute numbers of the white blood-corpuscles.
4. The relative proportion of the different kinds of white blood-corpuscles.
5. The presence and relative proportion of abnormal corpuscles.
6. The presence of alien structures.

Besides these, the chemical and physical characters of the blood as a whole, or of its corpuscular and fluid parts separately, may be investigated. Of this, however, I know nothing, and the difficulties in the way of such examination are considerable, generally necessitating more blood than we in England dare to take from our patients.

I do not, therefore, intend to do more than call your attention to the commoner features of pathological blood, and illustrate them as I go.

You are all aware that in a state of perfect health we are supposed to have 5,000,000 r. b. c. in every cubic millimetre of our blood, and that the ladies do not attain our high standard by half a million. A few examinations of one's own blood, and of that of one or two hospital friends, led one to think that this is too high an estimate, but in my own case, on returning after a holiday, or in the case of people devoted to outdoor rather than indoor labour, I have, on the few occasions tested, found the r. b. c. well up to, or even over the "normal" 5,000,000. A similar result obtained in the estimation of Hb. though I have only once obtained a reading of more than 90 per cent. in healthy persons, instead of the "normal" 100 per cent. allowed us.

At first it would seem absurd that the highest count of r. b. c. I ever made was in a patient who looked as ill as could be, and was suffering from rheumatic fever and congenital heart disease. He was a boy of fourteen, with the most purple of faces, and the most clubbed fingers and toes I ever saw; his lips were nearly black with cyanosis; the veins of his neck were very much distended. Six days after admission his Hb. = + 120 per cent., his r. b. c. = 10,080,000, and his w. b. c. 28,000 per c.mm., and two months later, when his oft-recurring arthritis at length subsided, he was left anæmic with 8,440,000 r. b. c. per c.mm.

We will turn to the consideration of this phenomenon (as a possible source of discussion after the paper).

Let us remember first that an increase in the number of r. b. c. could be produced by

1. Increased production.
2. Diminished destruction.
3. Diminution in the amount of the plasma.
4. Unequal distribution.

1. Production and destruction of corpuscles are processes that are always going on in the normal state. Is it possible that in cases of cyanosis such as ours, owing to the defective pulmonary circulation and consequent deficient oxygenation of the body, we go down, or rather come down, on our marrow bones for more oxygen carriers, and those noble and hard-worked factories respond by an increased output? ("work overtime"); or is it that the ill-nourished r. b. c. are small and weak, and that therefore their numbers have to be supplemented? For this there was no evidence in our case.

2. Or, on the other hand, perhaps the lack of oxygen results in a slower combustion of Hb., and a further lease of life to the corpuscles; that is to say, the rate of destruction is diminished.

In connection with this it is interesting to note that within two weeks of the time of taking up residence at great altitudes above sea-level, where oxygen and all other pressures are diminished, there is a marked increase in the number of r. b. c., and that their size is proportionately diminished.

3. As regards the amount of the plasma, we shall not add much to our knowledge until some evil-minded person invents a new method of clinical examination whereby we can gauge the volume of a man's blood without killing him; but it is easy to see that such causes as profuse sweating and diarrhœa may so rapidly deplete the blood of water, as well as of other things, that the blood-count may show an increase in the number of the corpuscles owing to the greater concentration of the blood.

Nurses will tell you that after the removal of much ascitic fluid patients get very thirsty, especially where re-accumulation of fluid is rapid; and it is on record in Cabot's book—from whose pages so many of my remarks will be supplemented—that within twenty-four hours of tapping the r. b. c. count rose from 3,280,000 per c.mm. to 5,160,000, and adds that "a careless observation might have inferred a great gain in the corpuscular richness of the whole blood, when, in fact, not a corpuscle has been gained, and those present have probably grown poorer in albumen."

But in our case of congenital heart disease there was no such cause; he had not even been sweating very profusely, certainly not with sufficient rapidity to cause a diminution of the whole of his blood-plasma by one half.

4. An unequal distribution of corpuscles implies a certain degree of stasis, and perhaps some surgical members may be able to instance cases where the pressure of a tumour on a part had led to great slowing of the circulation and an increased blood-count in the congested part. But can we say in the case under consideration that there is any slowing of the circulation in the periphery? And if there is we must argue that the corpuscles tend to linger—and in venous blood they are supposed to be more lazy than in arterial,—while the plasma passes on. It is difficult to imagine what useful purpose such a procedure would serve; and since an occurrence without a purpose is inimical to the best feelings of a would-be pathologist, I leave it to you either to suggest the purpose, if you can, or to deny the occurrence, as I do.

It is impossible for me to profitably discuss the opposite condition —oligocythæmia, or deficiency of red corpuscles in number—without considering the concomitant changes in the Hb. As you know, anæmias are divided into two classes—*primary*, in which the cause is unknown, and *secondary*, in which the anæmia depends upon some more or less obvious cause.

Let me dismiss the *secondary anæmias*, such as those due to lead poisoning, malaria, nephritis, hæmorrhage, fevers, sepsis, and many other conditions, by saying that the chief changes they show resemble those of chlorosis (presently to be described), though as a rule the hæmoglobin does not sink so low, and that, so far as I can see, their special study would lead to more light being thrown on the shape, size, and abnormalities of the r. b. c. than the profession yet has at its command; and I will come at once to the *primary anæmias* —chlorosis and pernicious anæmia.

Even these have not escaped the expert's suspicion of being in all probability really secondary anæmias. Dr. Gee always looks askance at them as diseases occupying proud positions which they have no right to hold, and I shall have occasion later on to point to one example where the diagnosis was exceedingly difficult. Indeed, as soon as physicians can place their fingers on any condition or conditions as being the cause of chlorosis or of pernicious anæmia, all anæmias will be secondary, and it will remain for pathologists to discuss the differences between the various kinds.

For the benefit of the more recent students let me repeat the essential differences between chlorosis and pernicious anæmia.

Chlorosis is chiefly met with in young girls, and is almost never fatal. The r. b. c. are distinctly but not excessively diminished in number—rarely as low as 2,000,000,—whereas the Hb is enormously diminished. The average size of the r. b. c. is certainly below normal; their shape is good except in extreme cases, and *very* few of them are enucleated.

Pernicious anæmia is nearly always met with in men aged thirty to fifty, and is probably always fatal. The r. b. c. are much diminished in number, and the Hb., though diminished, is not diminished in proportion to the r. b. c.—*i. e.* each "average" corpuscle contains more Hb. than is normal. The average size of the r. b. c. is certainly above normal; several of them are nucleated, the presence of *large* nucleated corpuscles being an especially important feature.

It is convenient to express the variation of relations between the Hb. and r. b. c. by what is called the Colour Index in this way: The Hb. percentage is made the numerator of a fraction whose denominator is the percentage of r. b. c., 5,000,000 being called 100 per cent.; the fraction is then reduced to decimals. In this way the normal C. I. = 1·0, the 5,000,000, or 100 per cent. of r. b. c. corresponding to the 100 per cent. of Hb.

Chlorosis.—I have never yet had the pleasure of examining the blood of a case of real undoubted chlorosis in a man. Those cases of anæmia where a blood-examination gave a result at all nearly approaching the condition found in ordinary feminine chlorosis were undoubted cases of secondary anæmia—one of malarial and another of cancerous origin. There is a member of this learned Society whose face, when first I saw it, made me long to have his blood (for scientific purposes, I mean). He was, and still is, though to a less degree, the picture of a chlorotic maiden; but for this he is apparently in good health, and I feel convinced that, could I have had a fair chance, I should have had some figures and a specimen to lay before you of an undoubted case of chlorosis in a young man.

By the kindness of Dr. Hayward I was allowed to examine the blood of several girls in the surgery, who were obviously chlorotic. The results I obtained have led me to believe that the C. I. is of much more importance in estimating the severity of a case than is the r. b. c. count. I mean that you may find several girls with, say, 2,000,000 r. b. c., and with 20 per cent. Hb (C. I. = 5), while other girls with a count of 3,000,000 will have only 20 per cent. Hb., giving a C. I. of $\frac{3}{3}$, and these latter will often feel worse and be less fit for work than the former. I have not observed enough cases, however, to enable me to do more than offer it as a suggestion. Now cases of chlorosis have been watched without treatment, and it is believed that the first change in the blood is a diminution of corpuscle substance, and later only do their numbers become less—*i. e.* the corpuscles which die or are destroyed in the ordinary course of life are replaced by small ill-shapen corpuscles, with, perhaps, even less Hb. than their size could sustain. Why, then, do the girls in an apparently later stage of chlorosis sometimes feel less ill than those in an earlier stage? Is it that the 2,000,000 corpuscles are better equipped with Hb., and hence more efficient, than their less fortunate friends in the 3,000,000 lady? or is the rapidity with which the Hb. is lost a more important factor than the actual amount?

Pernicious anæmia.—Let me call your attention to these two charts, representing the typical gross changes in the blood in chlorosis and in pernicious anæmia.

See how much higher the r. b. c. curve is in chlorosis than in pernicious anæmia, and how, in consequence, the Hb. curve is much closer to the r. b. c. curve in the latter than in the former; indeed, the vertical distance between the two, and their position relative to each other, represent the changes in the C. I. (the absolute value of the vertical distance varying according to the height in the chart).

You will notice in the chart of pernicious anæmia that while improvement is going on the Hb. line lies gradually nearer to the r. b. c. line, and finally below it, and when the relapse occurs the r. b. c. line sinks below the Hb. line; the C. I. is thus again raised to more than 1.

So that in this pernicious anæmia, as in chlorosis, the C.I. is of value, in this case being an indication of improvement or otherwise, according as it becomes less or greater.

I wish to say a few words about the look of the corpuscles under the microscope. In pernicious anæmia the corpuscles are more varied in shape and size than in any other disease; there are some very small ones, generally much misshapen, but the noticeable feature is the presence of many large corpuscles, some well-shaped, some deformed, and they are obviously paler than normal.

There was a case of pernicious anæmia in Luke nearly three years ago who had blood transfused from another to him on three occasions. It was curious to notice in a drop taken from his finger after the transfusion the difference between the healthy corpuscles and his own irregular corpuscles.

In stained specimens the same features are seen, though not so well, and it is also found that a small number of these red cells, both large and small, are nucleated. Moreover their protoplasm is in patches of a dirty brown or purplish colour instead of the usual eosin pink (if eosin is the dye used); this is notably the case in some of the nucleated reds.

Now in the blood-films of chlorosis you never see such large corpuscles as in pernicious anæmia, where some of them may be 10 or 12 μ across, half as broad again as normal; the variety in shape, too, is not so constant nor nearly so marked when present, and the brownish staining effect noticed above is much more rare.

No one has satisfactorily settled yet the meaning of any of the appearances I have mentioned; thus the deformity is considered by some to be due to a lack of elasticity of the corpuscle, so that it has no time to regain its shape, lost in the passage through the capillaries; but against this is the undoubted fact that the smallest corpuscles are those that are most deformed. Others have suggested that the appearances are produced in the making of the film; certainly *somewhat* similar appearances can be artificially produced, but even if they always were, it does not explain why they are more easily produced in pernicious anæmia than in any other disease, care in making the films being equal in all cases. Again, the peculiar staining effects described primarily by Maragliano, and by Hayem, have been variously looked upon as degenerative and as regenerative effects. Most think the former, and yet they often appear in nucleated cells, whose presence is almost universally believed to indicate regeneration. (Truly pathology should spell patience.)

I ought to separate the large type of nucleated red cell from the others when I say that they are almost universally believed to indicate regeneration. It differs from the others in that it is not found in normal adult bone-marrow, while the others are; it *is* found in fœtal marrow. It is called a megaloblast, and Ehrlich considers it the sign of a fœtal type of blood formation, where the nucleus is absorbed, not extruded to grow again, so that new cells are not formed from it. Therefore its presence in pernicious anæmia is always looked upon as a marked characteristic of the disease, and its abundance as a bad prognostic sign.

Nucleated red cells, mostly of the normal and small varieties, are also frequently present in severe secondary anæmias, especially, it is said, when due to malignant disease.

A woman was admitted to this hospital nearly three years ago for severe anæmia and wasting. Some time previously she had had her breast removed for what was diagnosed as cancer; she had no recurrence, but under the skin of her arm and forearm there were several small hard lumps whose nature was not settled by removal. No glands were found to be enlarged. I will not now discuss the clinical reasons for considering her a case of pernicious anæmia on the one hand, or of secondary anæmia due to malignant disease on the other.

The condition of her blood was as follows:

Hb. 29 per cent.
R. b. c. 1,396,000
W. b. c. 32,000
} C. I. = 1·03.

There were more than 1 per cent. of nucleated red corpuscles of very varying size. Many r. b. c., both with and without nuclei, showed purplish staining effects.

Her blood-state was investigated frequently, with practically always the result stated above; her anæmia did not progress. No profuse hæmorrhage nor suppuration accounted for the large number of leucocytes, a phenomenon which is exceedingly rare, and of very grave import in pernicious anæmia, and yet a C. I. as high as hers (1·03) is very uncommon in anything but pernicious anæmia. Imagine how tantalising it was to see those lumps under her skin, and feel that the diagnosis of her complaint rested there—beyond reach.

I have mentioned the magic word leucocytes. It is around these interesting little bodies that pathological study has raged incessantly. I wish to remind any future research clerks that in making blood-films the essential thing is to have an absolutely clean cover-slip; I clean mine now with soap and water, and keep them in alcohol and ether. It is necessary, too, to take a very small drop of blood to avoid squeezing the two cover-slips together, and to slide them apart rapidly. The poverty of some of the specimens I have put up for your inspection is due to want of care in one or other of these points. Fixatives, such as the vapour of osmic acid, or of formalin, are of use in preserving the shape of the corpuscles until the film is dry. Before staining it is necessary to heat the films: passing three times through the flame is enough for staining with eosin and methylen blue; when using Ehrlich's triple dye more regular and prolonged heating is necessary.

Owing to the work, first of Ehrlich, and later of Kanthack and Hardy and others, the various kinds of leucocytes have been fully described, and have received names accordingly.

	Normal adult blood.
Lymphocyte	20—30 per cent.
Large mononuclear	4—8 ,,
Polymorphonuclear (neutrophil) ...	60—70 ,,
Eosinophil	1—4 ,,
Myelocyte	
Basophil	

Now that seems very straightforward and simple, but as a matter of fact it is complicated by the following conditions:

1. The presence of intermediate forms.
2. The age of the person examined.

Frequently in the blood of an apparently healthy person one finds various forms of leucocytes which do not quite conform to these types.

One is therefore not surprised to find that on examining the blood, not of a healthy person, but of a case of any disease whatever, it is sometimes exceedingly difficult to arbitrarily decide to which of two classes some leucocyte or other belongs. Eventually some preponderating characteristic leads to their being placed in one group or the other, or they are impatiently noted as "intermediate forms" at the bottom of one's list. The question has naturally been raised, "Are these intermediate forms transitional?" and there seems to be a good deal of evidence in favour of the idea; indeed, though admitting the matter unproved, Cabot, for convenience' sake, calls the lymphocytes and large mononuclear "young," the polynuclear "adult," and the eosinophil "old" leucocytes.

A specimen shows what I take to be a lymphocyte dividing. Do not please infer that the peripheral circulation is the normal multiplying ground of these structures; though similar phenomena have occasionally been reported, the occasions are very few.

Then one must be prepared, when examining the blood of infants or young children, to find a larger percentage of lymphocytes and smaller of polynuclears than in the adult. In infancy 60 per cent. of lymphocytes is quite a normal thing; as the child gets older, so does his blood gradually assume the older state; but should sickness of any kind retard his progress in health, the "aging" of his blood is also retarded, so that in a rickety child of a year old we may find but little improvement on the blood he might have possessed at six weeks. So, too, the nucleated reds, which are commonly present in the first few hours of life, are called up again with ease by a slight illness in a child, whereas the grade of anæmia in an adult must be severe to account for their presence in anything but the very smallest numbers.

We will return to this when we have considered the phenomenon of *leucocytosis*.

This raises the question, "What is the normal leucocyte count?" It varies slightly in all probability with each individual, just as temperature does, and as leucocytosis is proportional to the normal number, where are we to start?

Kanthack used to teach that for clinical purposes, anything above 10,000 in an adult, or 30,000 in a child, was to be considered as a leucocytosis. But there are several physiological causes for a small increase in the number of leucocytes, in some cases the rise not being above the limits set by Professor Kanthack. Suppose a man's blood contains 13,000 leucocytes per c.mm., and the relation between the various kinds is practically undisturbed; is this a leucocytosis? Yes; and to explain it we find that two hours ago he had a *large proteid meal*, or he has just been engaged in some severe exercise, or has had a cold bath. In these conditions the leucocytosis is physiological. Such leucocytoses are generally slight in degree, and the relative proportion of the various kinds is very little disturbed.

Fasting diminishes the leucocyte count. Succi, the fasting man, had only 861 per c.mm. during the first week's fast, and never more than 1530 during the other three weeks. Similarly any disease of the digestive tract putting digestion out of gear will do away with the digestive leucocytosis. It is interesting in this connection to note that during digestion the eosinophils are diminished in number, and you will remember that Heidenhain demonstrated the abundance of eosinophil corpuscles in the intestinal tract just beneath the mucous membrane (not in increased numbers, though during digestion). It is said that vegetarians, like other herbivorous animals, show no leucocytosis. A small leucocytosis is the rule in the later stages of pregnancy, and at all events for a good part of the period of lactation. It is important to recollect these possible causes of moderate leucocytosis when investigating cases of disease.

In pathological leucocytoses the rise in the number of leucocytes is often very great, and nearly always entails—indeed, is almost entirely due, except in some cases of malignant disease, to a relative increase in the number of the polynuclear cells. I think I include all causes of pathological leucocytosis when I mention large hæmorrhages, toxic influences, microbic or chemical malignant disease.

Of hæmorrhage I have no more to say, and of malignant disease I only wish to remind you of the case of the woman with 1 per cent. of nucleated r. b. c., and that the large number of leucocytes (32,000), constantly found in her blood constituted an important argument against P. A., and in favour of malignant disease. In favour, so far as it goes, of P. A. is the further fact that it was the young cells, lymphocytes, and large mononuclear which were chiefly increased. The only thing certain about her is that the abundance of nucleated reds and of lymphocytes both recall more the condition found in the blood of an anæmic child than of an adult.

As an example of leucocytosis due to toxic influences, I cannot do better than bring forward pneumonia. Here are the charts of two cases, showing the daily changes in Hb., red corpuscles, and leucocytes, until one or two days after the crisis. You will see that there is a moderate leucocytosis during the course of the fever, terminating a day or two before the crisis with an enormous rise in the leucocyte count, in the case of the adult to 31,000 per c.mm., and in that of the boy to 56,000. With the fall in temperature occurred the fall in leucocytes, so that the blue leucocyte line marked the crisis in each case even more sharply than the temperature curve. (Dr. Garrod, working at leucocytosis in rheumatic fever, came to the conclusion that the leucocyte curve was even a more delicate indication of the rheumatic state than the temperature chart.) I would, in the case of the boy, call your attention to the second rise in the leucocyte count up to 42,000; a day or two after this count it became evident that the boy had developed an empyema. In the man's case there was no complication, and the leucocytes remained normal in number.

The leucocytosis in pneumonia is not always so marked as in these two cases. In some the count will only rise to 12,000 or 13,000; in a few there is no rise at all. Have these facts any meaning? Apparently they have, and it is this: that the sharper

the fight between the patient and his disease, the greater the leucocytosis. If a feeble being receives a large dose of "pneumonia germ," there will be practically no leucocytosis, and he will probably die. If a healthy and abstemious young man is infected slightly, he will give a small leucocytosis, and probably recover; if he is severely infected, he will give an enormous leucocytosis, and may or may not recover, the leucocytosis giving no promise one way or the other. As regards prognosis in this disease, then, the only thing to pray for is to get a leucocytosis of some sort; that assures us of, at all events, a certain amount of effective resistance to the disease. It is not on clinical evidence alone that this assumption rests. Animals have been injected with varying doses of septic cultures, with the result that only in those cases in which the dose was very rapidly fatal did a leucocytosis fail to appear, and that weakened animals gave less leucocytosis than strong ones to a moderate dose. So, too, it has been noticed that patients whose strength has been very seriously diminished by some disease, whether by one that gave a leucocytosis or not, have not shown any increase or additional increase when that disease has become complicated with another like pneumonia

Leucocytosis, then, like the temperature, is to some extent a measure of a patient's reaction to disease, but the comparison is not always commensurate. Look at this card (Alfred Langley), and contrast the very high temperature shown on the back with the poor leucocytosis of 18,000 mentioned in his notes, the blood-count having been made just before his crisis.

Von Jaksch, hoping to induce a favourable issue in those usually very fatal cases of pneumonia which give no leucocytosis, suggested the causation of an abscess, and therefore of a leucocytosis, by injecting turpentine. Leucocytosis *has* been caused in this way, and also without abscess, by injecting pilocarpine or nuclein, but with no more benefit to the patient than Dr. Gee avers can be given to a case of bronchitis by purging him, even though a natural diar. rhœa sometimes favourably ends the case.

To conclude the general consideration of this phenomenon, I must mention that the diseases which give no leucocytosis are typhoid fever, malaria, influenza (some cases), measles, Rötheln (German measles), and tuberculosis; always remembering that complication of these diseases, such as by copious hæmorrhage, pneumonia, or sepsis, will in all probability produce their usual leucocytosis unless the patient is already much weakened by the disease.

I have in another place instanced a few examples of the use of this knowledge in the diagnosis of disease, and will, with your permission, repeat them here ('St. Bart.'s Hosp. Reports,' 1898, p. 211).

Partly as a curiosity, and partly because of its clinical interest, I will quote to you some extracts from the notes of that case of pernicious anæmia, who, I told you, was transfused three times.

He was a man of 35, admitted on July 16th, 1897, for anæmia, pyrexia, and vomiting. On August 11th there is this note:—"Became delirious. Delirium at first quiet, then noisy; strange objects seen;" and the next note is "male attendant; temp. about 100°—101°."

"August 13th.—Oxygen inhaled 10 min. every hour; after a few inhalations patient became drowsy and less delirious.

"August 14th.—Still light-headed, but replies to *some* questions properly. 3.30 p.m., transfusion ℥viij; 5 p.m., is sensible, comments on his improvement; temp. 102·6° at night.

"August 15th.—Enjoys solid food, sits up in bed.

"Ten days later he was delirious again, and a second transfusion of ℥xv on the 27th seems to have produced no benefit worth noting. Then on September 10th, "2.30 p.m., third transfusion ℥x; bad fit of coughing during the operation. 4 p.m., began to shiver; typical rigor for half an hour, temp. 101·7°; pulse 150, full and soft. 7 and 8 p.m., temp. 103·7°. A.B. distinct (½ inch outside L.N.L. and C.D. to right of sternum), not felt on admission.

"September 11th.—Temp. normal. Urine—a marked urobilin band (none in the twenty-four hours before transfusion)."

The improvement after this seems to have lasted longer, for on the 21st (eleven days after transfusion) he fed himself. But in little more than a week he was dead. Post-mortem examination found nothing to account for his anæmia.

I will pass round a list of the blood examinations made on this patient, with notes on the important points, only remarking on the absence of leucocytosis, indeed, upon the very small number of leucocytes present in spite of the high temperature, except on the occasion of his rigor after the third transfusion—diminution in the number of leucocytes, as I said before, being a feature of pernicious anæmia, and also on the apparent glee with which the new healthy corpuscles are seized upon and destroyed, the evidence being not only the transitory nature of the rise in the r.b.c. count, but also in the presence of urobilin in the urine after transfusion.

So much for absolute leucocytis; I come now to changes in the relative proportion of the various kinds of leucocytes to one another, a consideration which includes the vast study of leukæmia.

This chart (on the wall) shows you the course of the leucocytes in pernicious anæmia. I have made it represent on the average a low count of about 2000 while the patient is very ill, and a rise to 10,000 or 12,000 while improvement is going on. I have done this in order to call your attention to the blood-chart of a *fairly* typical case of pernicious anæmia, which I now pass round (J. H. R—). You will see that during the first few weeks of his stay in hospital the only steady rise in his blood-improvement was in the leucocyte count, and that this feature was conspicuously absent during his second stay in hospital, during which there was no improvement at all. In the other respects the chart is not quite as typical as my big one on the wall, but it shows the high Colour Index of October 26th, which was of serious import, although at the time his face and hands were browned by the sun and he looked very well indeed. (I have called attention among the specimens to one of this patient's, taken at this time, and still showing many deformed corpuscles.) But though the number of leucocytes is so small in pernicious anæmia there is, especially in severe cases, a relative increase of the lymphocytes over the other varieties, making the proportion resemble that found in infants and young children. Thus in this patient's blood the

Lymphocytes	were 34 per cent.	45 per cent.
Large mononuclear	,, 11 per cent.	
Polynuclear .	,, 51 per cent.	
Eosinophil . .	,, 2 per cent.	
Myelocytes . .	,, 2 per cent.	

A similar lymphocytosis, as it is called, is also found in chlorosis and in many secondary anæmias, *e.g.* those due to syphilis or malaria.

I have put up some specimens to illustrate the condition known as eosinophilia—relative increase of eosinophil corpuscles. The phenomenon has been noticed in various conditions, notable among which are certain affections of bones and of the skin. Trichinosis is one of the conditions in which it is found, and I have put up a specimen of blood in this disease, which was stained by Prof. Thayer, and given to me by Prof. Kanthack. Account of this case showed a leucocytosis of 33,000, and 44 per cent. of the leucocytes were eosinophils. Next to it you will see a film made from a gentle scraping of the floor of a bleb from a case of pemphigus, and you will see that the leucocytes are nearly all eosinophils.

I should leave my already long paper incomplete if I failed to say something about leukæmia, but all I intend to do is to call your attention to two cases of disease in children, in which the blood condition was such as to cause much discussion as to whether they were cases of leukæmia or not, and I do so because lukæmia itself is too big for me to attempt to discuss in a short space of time, and because these two cases in my estimation form a powerful link between leukæmia and other blood conditions.

A boy (J. H—) æt. 7 was admitted with dyspnœa, bleeding from the nose and mouth, and marked anæmia. He had huge tonsils and adenoids. Some dulness under the upper part of the sternum, and towards its right just suggested mediastinal tumour; his spleen was enlarged. Later some glands were felt in the neck, and these grew rapidly. A month after admission he had enlarged and enlarging glands in axilla, groins, and abdomen; his spleen grew wofully. At this time his Hb. was 24 per cent., r.b.c. 2,500,000, and w.b.c. 50,000, of which many were lymphocytes. Now 50,000 is not a high enough count to suggest leukæmia at first sight, though it is quite possible; indeed, in one undoubted case of splenic leukæmia in an adult the leucocyte count was found to gradually vary from 200,000 to 80,000 and then back again, the altered relations between all kinds being maintained throughout, and it is *usual* in children, as I stated before, to get many lymphocytes when they are very ill; but a fortnight later his blood showed Hb. 20 per cent., r.b.c. 1,848,000, and w.b.c. 146,000 $\frac{R}{W} = \frac{1}{1}$. There were some nucleated rods; the lymphocytes and large mononuclears together exceeded 90 per cent. of the leucocytes, and some of the latter resembled myelocytes as well as they could for the staining, and a week later an almost exactly similar result was obtained. It is a result that places the condition of this boy's blood in the rank of lymphatic leukæmias whatever the cause of the condition might be. The mediastinal tumour was found after death, and many of the glands were filled with secondary growths.

So with the second case, that of a slightly rickety baby of eighteen months, who was so blanched, and fair, and waxy that she received the name of "the Botticelli baby."

In her illness, as in the boy's, hæmorrhage from the nose or mouth was prominent among her earlier symptoms. Her spleen was the only organ enlarged, and that was huge. The cervical glands were felt, but were "not unduly large."

On admission her r. b. c. = 2,450,000, and her w. b. c. 160,000; six weeks later they had reached 1,900,000 and 27,000 respectively, and in another six weeks were 2,152,000 and 108,000. On this last occasion Dr. Kanthack reported finding

51 per cent. lymphocytes.
10 per cent. mononuclear.
35 per cent. polynuclear.
4 per cent. eosinophil, of which a half were atypical,

a state of things which would fit in well with normal health, but for the enormous excess in actual numbers.

Whether any of the latter or any of the large mononuclear were myelocytes is not reported, but his opinion is recorded that it was a case of mixed leukæmia—splenic and lymphatic. Nowadays, at all events, the presence of the myelocyte in large quantities is regarded as characteristic of splenic leukæmia; but it must be remembered that they often appear in small numbers in other diseases, especially in anæmic children. This child got quite well, and is alive now, and is nearly six years old. Not the least curious feature is the fact that two children born to her parents since have both been admitted here—one twice—with petechiæ and huge spleens, showing grave blood-changes, including the presence of 7 per cent. of myelocytes on one occasion, but never such enormous numbers of leucocytes. They were not regarded as leukæmias, and yet the sole differences seemed to be that the elder sister, whom I have described, was more ill than her brother and sister, and had a very large leucocyte count.

This must conclude, I am afraid, my account of the points one looks for in examining the blood of a patient. You would not wish me to have put something of everything into the space of an hour's reading; as it is, I have done little more than hint at some of the more interesting problems that have arisen constantly in the course of a few years dabbling in the science of blood pathology.

Common Fœtal Presentations accompanied by Complications.

By PERCY SHELLEY, M.R.C.S., L.R.C.P.

THE following cases of labour at full time, which appeared normal on examination, seem of interest on account of the complications occurring in them.

CASE 1.—A young woman, primipara, unmarried, aged 19, was seized with labour pains. On examination the os was found to be dilated to the size of half-a-crown. An ordinary occipito-anterior was diagnosed, and as this was her first baby, and duty called elsewhere, she was told I would call later on. Five hours later I again examined her, and to my astonishment found a pear-shaped mass protruding from the vagina. This, I discovered, was a fibroid polypus, and as she seemed in great pain, and was evidently getting very weak, I sent for a local gentleman to give an anæsthetic. The polypus was removed, and then the head could be distinctly felt, firmly wedged in. On either side could be felt something which gave the impression to the finger like nothing more than a blancmange. In the examination a quantity of white, clear, jelly-like substance came away on the finger. After a consultation it was decided to get away as much as possible and apply forceps. This was done, and it was then discovered that there was some great obstacle to natural labour. The masses on either side of the head were removed, and proved to be polypi. After this had been done the child was born quite easily. A difficulty then presented: the uterus would not contract down for a long time—*i. e.* two hours,—and felt more like a bunch of grapes than anything else.

CASE 2.—A woman aged 40 was confined in due course. I was called in, as the baby's head had been born quite fifteen minutes, and though pains were strong, nothing occurred in the way of advancement. When I arrived the child's face was almost black. I introduced my finger, and found a curious condition. The cord was wound twice round the neck, enclosing the hands. Very great force had to be used in traction on the head to release it, and even then there was great difficulty in getting the cord clear. The hands added greatly to the difficulty, as they overlapped the lower jaw on either side. The infant (a female) weighed quite 10 lbs.

CASE 3.—A multipara, aged 40, was confined of her fourth child. Labour was normal up to the head being born. A difficulty then arose, as no progress was made. After traction had been made the child (a healthy female) was born. In this case the feet were alongside the lower jaw bones. The child was perfectly formed, and of large size as far down as the hips. Here a curious state presented itself. There were no hip-joints; the glutei muscles were to the front; the left knee was posterior; there was no right knee at all, and both patellæ were absent. There was also double talipes equino-varus. The mother had a fall at three months, and a fright on seeing a child of a friend of hers which was born in a somewhat similar state.

I strongly and most emphatically pray that the medical faculty will one day pass a law in Parliament regarding these old women, who, knowing nothing, but because they are mothers, fancy they can manage labours, go out, and in nine cases out of ten cannot express the placenta, but have to send for a doctor to do it for them. Many and many a time have I been called up at all hours of the morning to go to a confinement, only to find the placenta lying idle, so to speak, in the vagina.

In some cases I have found distinct evidences of traction on the cord. One case in particular I remember, in which the so-called midwife had tried all she knew to remove the placenta. When I arrived I found the patient almost pulseless, and the bed soaked in blood. It took me three hours before that uterus contracted down and I had reduced the subinvolution caused by the unregistered woman—I cannot call her a midwife in honesty.

Notes.

THE Bradshaw Lecture before the College of Surgeons will be delivered on Wednesday, December 12th, at 5 o'clock, by Mr. Langton. Subject, "The Association of Inguinal Hernia with the Descent of the Testis."

* * *

DR. J. MORRISON has resigned the post of Midwifery Tutor.

* * *

WE very much regret to record the death of William Phillips Price, one of our second year's men, who died on October 18th from an attack of perityphlitis. Price was twenty-four years of age. After matriculating at London University he joined the Preliminary Scientific Class in 1896, and after passing the examination he joined the Hospital in October, 1897. Price was a popular member of the Transport Section of the V.M.S.C. for five years, going four years to camp at Aldershot. His loss is deeply felt by all his associates at the Hospital.

* * *

WE congratulate Mr. Louis F. Dods upon the favourable result of his application for judgment or a new trial of the case heard in June last. Our readers may remember that an action was brought by Miss Dowling, a professional nurse, against Mr. Dods for damages for libel said to be contained in a certificate of lunacy addressed to the relieving officer for Paddington. Before Mr. Justice Darling and a common jury the trial ended with a judgment for the plaintiff, and damages assessed at £100. On November 6th, before the Court of Appeal, this judgment was reversed, and costs were allowed.

THERE is a scheme afloat for starting a University of London Athletic Club—or Clubs. At present there seems to be considerable difficulty in deciding whether the name shall have anything to do with the actual constitution of the clubs or not; in other words, whether the clubs shall be restricted for their membership to matriculated students, or thrown open in a truly cosmopolitan fashion. But we are postponing criticism until next month, by which time some definite proposals will doubtless be before us.

* * *

WE have received an indirect suggestion from a subscriber that we should publish a "Calendar of Old Bart.'s Men" in the JOURNAL. We should welcome any practical suggestions heartily, for news of old Bart.'s men is always of interest, and finds a ready entry in our columns whenever it arrives. A mere list of old Bart.'s men and their addresses would be a superfluity in face of the small book allotted to these, and issued periodically by the School, whereas for actual items of news connected with our older *confrères* we are dependent largely upon their own communications. For their knowledge of each other's doings we are ever ready to provide a medium, but our personal editorial reminiscences are unfortunately limited to a decade or so, and many names we see in print, or hear in conversation, do not therefore always stir our souls as they might do those of their contemporaries. Once more, then, we cordially invite *any* items of news concerning old Bart.'s men, either from themselves or those who recognise their names as old friends.

* * *

WE would remind our readers that we do not print contributions unaccompanied by the names of the authors, though these latter are not necessarily required for publication. The poems we have printed in recent issues seem to have awakened a spirit of emulation previously dormant. Unfortunately the Muse has not been wooed with great success. Like so many other wooings where the object is worth the winning, new endeavours would seem necessary before the aspiring poet is smiled upon, and shows it in his rhyme. As it is, we feel sure that the greatest disappointment amongst those who read the poems if we printed them would be felt by the authors themselves. Perhaps the best unpublished thing is by C. R. A., called "The Medical Student from a Feminine Point of View." But the following is surely too gruesomely impossible, either in actuality or in print:

"It's a little disconcerting, when your arm on his is resting,
As you flit among the dancers to the music's sportive sound,
When he tells you that the member which last week he was dissecting
Though not perhaps so white, was most decidedly more round."

So we refrain, hoping to receive something rather more likely from C. R. A. next time.

WE welcome two new contemporaries this month:—*The New Zealand Medical Journal*, and *The Durham University College of Medicine Gazette*. The former promises to occupy a prominent place amongst purely medical periodicals. The latter makes a good start as a students' journal.

* * *

THE Annual Dinner of the Medical Officers and Teachers is announced for Thursday, December 20th, at the Albion Tavern, at 7 for 7.30 o'clock. Dr. Ormerod is the Chairman. The Dinner was not held last year, owing to the news of the rather sudden death of Sir Richard Thorne Thorne.

The Amalgamated Clubs Dinner, 1900.

(By our SPECIAL REPRESENTATIVE.)

I WAS a few minutes late in arriving at the Café Monico, and the company were just settling into their seats as I entered the room. I therefore lost no time in finding a vacant place, and occupying it just a few minutes before silence was called for grace. This having been said, I had leisure to look about me and review the situation, whilst the first item on the menu card, viz. relishes, were coming round.

Seated at the end of the hall, with the band behind me, I had a good view of the company. My eyes wandered first to the figure away on my left who occupied the "chair." It was Dr. Calvert, looking as genial as ever. Seated on his right was Dr. Tooth, next to whom sat Dr. Hensley, chatting genially to his next door neighbour, whose name I did not then know, but learnt subsequently was Dr. Murray. To his right was Dr. Calverley, looking very fit and just the man for a dinner. On the chairman's left was a line of familiar faces, first of all being Mr. Bowlby, and following on from him Mr. Laming Evans, Mr. Rowe, Mr. D'Arcy Power, Dr. Herringham, Dr. Garrod, Dr. Drysdale, and Dr. Orton. The relishes had arrived at me by this time, so for a space I was otherwise occupied; but between the courses I made out Dr. Griffith and C. Meade, the latter of whom quaffed champagne like a connoisseur, and gave evidence that South Africa had not destroyed an appetite which I well knew in days gone by to be very robust.

The first part of the dinner was quiet, but by-and-by tongues were loosed and a general hum of conversation was heard.

During the dinner an excellent band performed several well-known and popular favourites, so altogether circumstances were very favourable to the enjoyment of the occasion.

Just as the dinner was concluding a very impressive ceremony was performed, of which I got a good view. I had noticed a man at the far end of the room busily engaged in erecting a species of watch-tower, on the top of which he at last placed a camera; this gave me a clue to what was going to happen. Eventually his preparations were complete, and having attracted general attention by this time, he made a little speech, advising all assembled to keep quite still. At this those who had their backs towards him screwed their heads right round and became quite immoveable, which gave the little man great apparent satisfaction. There was a click, and then two brilliant flames of light burst forth and waved about in two different parts of the hall, reminding me of a scene in "Faust." They vanished as quickly as they had come; then the little man made another little speech, which was cheered with vigour by the company, in which he gave us great thanks for our kindness.

Hardly was this over when Dr. Calvert rose to his feet, and without any preamble proposed the health of the Queen—general rising of company; National Anthem from band; raising of glasses; "The Queen, God bless her!" empty glasses set down; company reseated. Now cigarettes and cigars appeared from everywhere, a general blaze of striking matches, and a fragrant cloud of smoke floated lazily up to the richly ornamented roof of the dining hall. A gentleman, tall and broad-shouldered, was observed to rise and make his way to the platform occupied by the piano; he sang a song in a good rich baritone, which was so loudly applauded that he consented to give an encore, and sung a quaint west country song descriptive of the death and ghostly reappearance of somebody's mare drawing a ghostly cart filled with an equally ghostly number of passengers whom he mentioned by name. His actions were very comic, and his imitation of the yokel accent was perfect, added to which the song had a short catch of a chorus, which was joined in by every one present.

A few moments were allowed for the thunders of applause to subside, and again Dr. Calvert rose in his seat to propose a most popular toast, viz. "The Amalgamated Clubs." His remarks were few but characteristic of the man—very much to the point. He said the Amalgamated Clubs were an essential part of Bart.'s; that they gave opportunity for the physical development of their members just as the school and hospital gave opportunity for their mental development; that a proper combination of sport and work was acknowledged the best training for a student, both during his student's days and for his battle with the world in practice afterwards. The Clubs were in a flourishing and rapidly growing condition; he could give evidence of that in the frequent demands made upon their treasurers by the different units for "more money." He was extremely pleased to see such a large number there to-night, and thought it augured well for the future. He then proposed the health of the Clubs, which was enthusiastically drunk.

Mr. Tosswill's speech, in reply, was like Dr. Calvert's, short and sweet. He congratulated the members of the Clubs on their good fortune in having Dr. Calvert in the chair, and made a splendid hit by referring to the aptitude which Dr. Calvert had for making the dull subject on which he lectured at the hospital the most interesting, and referred to a description of a drug which has become almost historical amongst Bart.'s men, namely, that drug which is made from "the expressed juice of the squirting cucumber." There had been applause before, there was applause after, but none equalled the delighted shout which greeted this remark. In the remainder of his speech Mr. Tosswill said that they were always glad to see any of the staff present at the matches and athletic contests in which the Clubs engaged.

The next toast on the list was "The Guests," and here Mr. Turner made an admirable speech, his sentences well chosen and well delivered.

Mr. Bowlby replied, and as he rose to his feet it was evident that the popularity which he has always enjoyed had in no way diminished. The leading figure in the Portland Hospital was cheered again and again as he stood calmly waiting till such time as his voice could be heard.

His speech was most interesting, and in places exciting. Seated on my right at a little distance was a group of men who had evidently decided earlier in the day to sit together at the dinner. They were cronies, and were very great admirers of the speaker; they encouraged him to "start right away" and "not be bashful"—a most unnecessary bit of advice. They also formed a little "chorus," and made appropriate remarks as the speech proceeded.

Mr. Bowlby started off by saying that the influence of Bart.'s was wide-spread. (The chorus agreed.) He was always meeting Bart.'s men in out-of-the-way places; this led up to a short description of the African campaign from Mr. Bowlby's point of view, and the work of the Portland Hospital. He spoke very highly of the British Tommy Atkins, his obstinacy and perseverance, his eagerness to fight, and above all, his uncomplaining cheerfulness under adverse circumstances. He also made special mention of the Commander-in-Chief, much to the delight of the chorus. There was one characteristic of Lord Roberts he must specially mention, and that was his consideration for the sick and wounded (chorus, 'Good old Bobs!'); he never ceased to think of their welfare (chorus, 'Dear old Bobs!' Directly after reaching Capetown he rode over to the camp to inspect the work (chorus, 'Smart old Bobs!'), after which he went straight on to somewhere else to inspect more work (chorus, 'Brave old Bobs!'); after which he rode 33 miles to inspect again (chorus, *crescendo*, 'Energetic old Bobs!'); then he went to an hotel to lunch (chorus, still louder, 'Greedy old Bobs!' Nothing seemed to escape his eye (chorus, admiringly, 'Cunning old Bobs!'). On one occasion he rode a long distance, got ambulance waggons, and started

off a batch of wounded, having presented them with unlimited champagne (chorus, longingly, "Generous old Bobs!"). Mr. Bowlby mentioned many Bart.'s men by name whom he had met in South Africa, some going in pursuit of De Wet, some who went down with enteric, one who had gone to Ceylon, and one who was then present whom he first met at Bloemfontein, driving in tent-pegs, viz. C. Meade (chorus, unanimously, "Good old Charles!"). The last part of Mr. Bowlby's speech was a yarn which he told of his own personal observation of Tommy Atkins; it was excellently told, and had a breeziness about it that Rudyard Kipling might well envy, and brought the house down.

Closely following Mr. Bowlby came Dr. Tooth, whose speech was eminently humorous. He said he felt horribly embarrassed, but the chorus didn't believe him; he described several incidents and persons of the Portland Hospital, and laid great stress on the unanimity of the little community; all selfishness seems to have been abolished, and a spirit of "help your neighbour" reigned supreme; the motto of "Every man for himself, and God for us all," did not apparently exist. In conclusion he prevailed on C. Meade to say a few words.

These were spoken chiefly in praise of the war orderly, both regular and volunteer, of the army in South Africa (chorus, "Still going strong").

Mr. Calverley followed with a neat and funny speech also on the subject of the Portland Hospital, with a brief mention of buck-shooting. The next toast was that of "The staff," proposed in a short speech by Mr. Nicholas.

Dr. Hensley made a speech witty and well-spoken in reply, and remarked on Mr. Bowlby's yarn which savoured of Kipling (chorus in a fever of delight). Dr. Hensley then proposed the health of the Chairman.

Dr. Calvert responded (chorus again rampant). He said the dinner was a special occasion, and had become a khaki dinner; and he felt, as Dr. Norman Moore had said at the recent Cambridge Graduates Dinner, that we ought to respect Lord Roberts's request about *not treating* returned soldiers, and his conscience rather pricked him about Mr. Bowlby and his colleagues, but he hoped that they would not get into a row (chorus furious at the idea).

Dr. Murray, who was House Surgeon and House Physician in 1885–6, and who since then has been in practice at Johannesburg, and was in the town throughout the war until Lord Roberts entered it, gave a very interesting speech, descriptive of the Boers, the way they live, and the way they accepted the success which attended their first efforts in the war (chorus would like to express disapproval, but are compelled by the interesting nature of the speech to refrain).

Dr. Griffith, in a few well-chosen words, spoke of the medical missionary work in China, and the nature of the men engaged in it (chorus look rather sheepish).

The evening was drawing to a close, and Dr. Calvert suggested as a fitting wind-up that Mr. Crompton, the tall, broad-shouldered gentleman before mentioned, would oblige with another song, preferably with a chorus. (The chorus are again unanimous.)

The song described again a yokel scene in a church when the organ it went toot, toot, toot, and the organ it went toot. The yokel accent was again perfectly imitated.

"Auld Lang Syne" and a rush to the cloak room finish a perfect evening. As the company trooped down the stairs, adjusting coat collars and neckerchiefs, they one and all agreed that for an enjoyable dinner that of the Amalgamated Clubs in the year 1900 was second to none.

"Amalgamated."

THE Clubs Amalgamated,
By Bartholomew they swore,
Their friends Perpoculum and Dens
Returnèd from the war
Should be welcomed at a dinner
At Café Monico,
And bade the secretaries go forth
East and west and south and north
To bid the members go.

East and west and south and north
The secretaries sped,
And fast as woman's gossip
The festal news is spread.
Shame on the faltering member!
The laggard slacker slow,
When Clubs Amalgamated
Meet at the Monico.

* * * *

And now they all are gathered,
The host of members keen;
Here's Rugger, Soccer, Hockey,
And others too, I ween.
Around the well-spread table
Is met the great array;
Proud was Amalgamated
Upon the feasting day.

For the host of St. Bartholomew
Assembled 'neath his view,
And many a doughty dresser,
And many a "roomsman," too,
The qualified, the fresher,
And men beyond their year
Are gathered here to meet again
Their friends returned from fields of stain
With many a ringing cheer.

And from the Chieftain's table,
Who held the chairman's seat,
Arose 'mid cheers and plaudits,
And the stamping fierce of feet,
Calvertius Jacobulus—
Our cheery warden he—
Presiding o'er the tens and tens
Who greet Perpoculum and Dens
From far across the sea.

And then rose massive Tosswill,
The secretary he,
Who gave the evening's toast—Our Guests
That all had come to see.
And then spoke out Perpoculum
Of bloody war's abode,
What time one called Corbinius,
With humour pat and luminous,
Appreciation showed.

Then Dens the plainly spoken
(The nurses were not there!),
With interest and humour,
And tale and story rare,
Did keep the host assembled
In humour good and gay,
And called on stout Calverlius,
With many a sally humorous,
To say some little say.

Nor yet amongst the speakers
Must these then be forgot:
The elegant Turnerius,
And Nicholas the hot,
And Medius few-worded,
And soft-voiced Hensleius too,
And clamoured—for Marthurian Knight,
Who would not here those things recite
He was accustomed to!

And then to end the banquet
The deep-mouthed Mammoth sang
A song of Western Devonshire,
And out the chorus rang
From lusty lungs of members,
That all the world might hear,
Who then dispersed in great content,
Their steps to various quarters bent,
To meet another year.

J. R. R. T.

The Cambridge Graduates Club of St. Bartholomew's Hospital.

THE Twenty-fifth Annual Dinner of this Club was held on Thursday, November 8th, at Frascati's Restaurant, Dr. Lewis Jones (Caius) being in the chair. The members, we believe, reached a higher total than in any previous year, about eighty members and their friends responding to the Secretaries' invitations. The evening passed off very successfully, but some regret was expressed when it was found that Mr. Bowlby had been permitted to dictate certain conditions concerning his attendance, and those present who had looked forward to, and proceeded so far as to suggest a speech from him, were disappointed.

After the Queen's health had been honoured, the Chairman proposed in a short but eloquent speech the toast of "The Club;" he drew attention to the fact that this was the twenty-fifth occasion on which the members had met together to renew their allegiance to their Alma Mater; he also expressed his gratification at having been asked to preside at this, his twenty-first appearance at the annual dinner, and welcomed, in the name of the Club, those who were there for the first time. Dr. Lewis Jones concluded by mentioning the circumstances which led him to select St. Bartholomew's as his hospital, a happy choice, for which he was partly indebted to an old friend present at the dinner.

Dr. Shelley shortly afterwards delighted the company with an entertaining tale of a bereaved widower and his family burial plot.

Dr. Drysdale proposed the health of the guests, amongst whom he noticed Mr. Bowlby, Dr. Calvert, Dr. Garrod, and Mr. Waring; touching delicately on their merits, and dwelling upon the various parts they played in the daily life of the hospital.

Dr. Calvert, Dr. Garrod, and Mr. Waring responded in turn, with becoming but ever-increasing modesty, and the last-named spoke of the trials which beset the path of the first guest of the club when a sterner spirit prompted its actions.

Dr. Norman Moore in an appropriate speech proposed the health of the Chairman; passing in review some of his noble predecessors, he told of the traditional origin of the Club, when William Harvey was entertained by Dr. Wilkinson of Trinity; and of Dr. Caius, who on a similar occasion, after it had been found that there was no vacancy for him on the hospital staff, sent for the surgeons and warned them of the penalties they would incur if they ventured to order physic for the patients without the authority of a physician: this seems to have been adequate recompense to the worthy doctor for his want of success at the elections. Then, from some historical storehouse in his memory, Dr. Moore related the tale of the Chairman's forerunner in the Electrical Department, Dr. Freke, who was wont to while away the evening hours with Fielding and Hogarth, and has been immortalised in the former's book, *Tom Jones*, concluding his speech by welcoming the Chairman as a worthy successor to the genial Dr. Freke.

Dr. Lewis Jones briefly responded, and subsequently gave the toast of the Secretaries, to which Dr. Morley Fletcher and Dr. Horton Smith replied.

During the evening Dr. Moore told a thrilling fairy tale, and Messrs. Wood, Jennings, Pollard, and Nixon provided some musical entertainment.

Abernethian Society.

THE Third Ordinary Meeting of the Society was held on October 25th, the President (Mr. Gask) being in the chair. The result of the poll for second president was announced, Mr. Nixon being elected.

Mr. Shrubsall showed an interesting case of hyaline degeneration of the skin. Mr. C. J. Thomas showed two cases of Friedreich's ataxia, as well as a cretin. Mr. Bainbridge showed a case of achondroplasia. A case of congenital heart disease was shown by Mr. Hay, and one of transposition of viscera, as well as one in which there were patent branchial clefts, were shown by Mr. Wethered. Mr. Bull showed a case of epispadias, and Mr. Forbes a series of microscopical specimens from a case of icterus gravis in a boy æt. 8.

There was a good attendance of members, and an interesting discussion of the various cases.

The Fourth Ordinary Meeting was held on November 1st, the President (Mr. Nixon) being in the chair.

Mr. F. A. Bainbridge read a paper on "The Relation of the Tissues to Lymph Formation." This paper was the outcome of his recent research, and was extremely interesting.

The following is a brief abstract of the paper, which will appear shortly in full in the *Journal of Physiology*:

"In the course of his paper Mr. Bainbridge pointed out that the question of lymph formation might be approached from two points of view, namely, the relation of the blood to the lymph, and the relation of the tissues to lymph formation. After showing that the latter aspect of the subject had been much neglected, he briefly summarised the existing views as to lymph formation. He then proceeded to give an account of his own experiments on the lymph flow from the submaxillary gland. These experiments showed that an increased flow of lymph is invariably produced by glandular activity, whether due to stimulation of the chorda tympani, the cervical sympathetic nerve, or to pilocarpine. When the irritability of the gland is diminished by obstructing Wharton's duct, less lymph and less saliva are produced by chorda stimulation than under normal conditions. Finally, after giving atropine, chorda stimulation no longer causes any increased flow of lymph from the gland, although by clamping the submaxillary vein or injecting large quantities of dilute salt solution an increased flow of lymph is still produced. Mr. Bainbridge considered that the increased lymph flow produced by chorda stimulation was independent of vaso-motor changes, was dependent on activity of the gland-cells, and was probably due to the casting off of metabolites by the gland-cells into the lymph-spaces, followed by a rise of osmotic pressure, and

the passage of water from the capillaries to the lymph to restore the balance. In conclusion, he threw out the suggestion that tissue metabolism was probably a much more important factor in lymph formation than had hitherto been supposed, and that it might possibly have some bearing on renal dropsy."

The Fifth Ordinary Meeting was held on November 8th, Mr. Gask being in the chair.

Mr. Robbs showed a case of myositis ossificans in a boy æt. 11, and then Mr. Paterson read his paper, entitled "Treatment of Septic Wounds." He briefly recounted the nature and treatment of wounds, dismissing incised and contused wounds in a few words. He thought that suppuration often occurred in lacerated wounds owing to the violent measures being taken to render them aseptic, measures which in his experience rendered the tissues more prone to the action of septic organisms, by impairing their vitality. He suggested that it was advisable to cut away all undermined skin in cases of spreading cellulitis, and then treat the resulting ulcer by skin grafting. He concluded his paper with an account of Tiersch's method of skin grafting.

There was a lengthy discussion at the conclusion of his paper.

The Sixth Ordinary Meeting was held on November 15th, Mr. Nixon being in the chair. Owing to the illness of Mr. Everington, who was to have read a paper on "Some Points in the Management of Sick Children," a clinical evening was held. Mr. Eddison showed a case of hermaphroditism in a patient æt. 25. Mr. C. J. Thomas showed a case of paralysis of the 5th, 6th, and 7th nerves, due to a tumour in the floor of the 4th ventricle. Two cases of osteitis deformans were shown by Messrs. Vaughan Pryce and Willett. Mr. Hay showed a case of purpura which had resisted lengthy treatment. Two eye cases were shown by Mr. Danks. In one there was a tumour of the iris containing fluid and bulging through an operation wound in the cornea. The other showed a papillomatous condition of the upper and lower eyelids with some destruction of the lower lid consequent on wearing an artificial eye too long. Dr. Garratt showed some improved tracheotomy tubes, and explained the method of using them. There were a number of pathological specimens as well, but owing to the lateness of the hour no discussion was possible.

The Seventh Ordinary Meeting was held in the Anatomical Theatre on November 22nd, Mr. Gask being in the chair.

Dr. Tooth gave an account of his experiences in South Africa, and showed a collection of lantern slides prepared from photographs taken by him while out there.

His account of the doings of the staff of the Portland Hospital, and of others he met there, was most interesting and amusing.

The lantern slides were excellent, those in which familiar faces figured being particularly interesting.

Perhaps the funniest was that showing the state of mind Dr. Tooth was reduced to, on being present at the firing of a 4·7 gun for the first time.

At the conclusion of his remarks, Sir Thomas Lauder Brunton proposed, and Mr. Edgar Willett seconded, a vote of thanks, which was heartily supported.

There was a good attendance of the nursing staff and members.

Refreshments were served in the library afterwards.

Amalgamated Clubs.

(*Accounts of the Hockey matches will appear next month.*)

RUGBY FOOTBALL CLUB.

The Rugby team have played eight matches, and have won three and lost five, the victories over Cooper's Hill and Catford Bridge being very creditable, as both these clubs have been going rather strong this season, and from their results with other hospitals it looks as though we have a good opportunity of obtaining the Cup. But very poor form also has been shown by the Hospital in some matches, this being chiefly due to men scratching off and not playing; in fact, in one match only four of the regular first team turned out. With this state of affairs the team will never be able to get together, and it is to be hoped that some members will make a little bit more of an effort to turn out for the Hospital, as it seems a pity to let this chance for the Cup slip. A. O'Neill has been chosen to play for rest of the South *v.* London and Universities, and ought, before the end of the season, to obtain further honours.

ST. BART.'S *v.* UPPER CLAPTON.

A very weak team from the Hospital went down to Upper Clapton, O'Neill and Tosswill being away playing for Devonshire, while a number of men scratched off to go and see the C.I.V.s.

Upper Clapton kicked off, and play was chiefly confined to the forwards until Clapton opened the scoring by crossing our line, the try being converted. After the kick-off the Hospital took the ball by a series of rushes down to the Clapton "25," and W. H. Scott, picking up smartly with tricky run, got over, and converted the try himself. Clapton's turn now came for scoring, which they did after a long run by their three-quarters, a goal resulting.

After half-time the Hospital were penalised for off-side, and Clapton obtained a penalty goal. The Hospital then made strenuous efforts to get on level terms, but were kept out by the good tackling of the Clapton backs; at last Plews struggled over for a try, which was unconverted, and the game ended in a victory for Upper Clapton by 13 points to 8 points. Team:

R. McDonagh (back); A. C. Wroughton, N. M. Wilson, G. Martin, T. Bates (three-quarters); W. H. Hamilton, W. H. Scott (halves); H. T. Wilson, J. M. Plews, H. Wroughton, A. R. Neligan, E. C. Hodgson, E. C. Wise, H. S. Stanger-Leathes, G. H. Adam (forwards).

ST. BART.'S *v.* ROSSLYN PARK.

Played at the Old Deer Park, Richmond. Rosslyn Park kicked off, and very nearly got in at the start owing to some fumbling amongst the backs, in which Bates got his collar-bone dislocated and had to leave the field. With one man short the Hospital played up hard, Plews coming out of the scrum to the three-quarter line, and soon after Drury scored for the Hospital, the kick failing. After the kick-off play remained in neutral territory for some time, and then a rush by the Park forwards ended in King Stephens scoring, Pooley converting. After the interval the Hospital forced the Park to touch down, and from the drop out Drury returned, and, following up his kick, scored between the posts, O'Neill converting. Shortly before time the Park scored again, and, Pooley converting, they won a hard game by 10 points to 8 points. For the Hospital O'Neill, Drury, and Stanger-Leathes played well. Team:

E. S. Marshall (back); A. Aitken, G. Drury, J. B. Gillies, T. Bates (three-quarters); W. H. Hamilton, B. N. Ash (halves); A. O'Neill, L. R. Tosswill, H. T. Wilson, J. M. Plews, H. E. Stanger-Leathes, A. R. Neligan, F. Harvey, R. Miller (forwards).

ST. BART.'S *v.* COOPER'S HILL R.I.E.C.

Played at the College ground at Egham. The Hospital were fairly well represented, Cooper's Hill having their captain away. From the start the play was very fast and scrambling, the Hospital being better in the open; play settled down in the R.I.E.C. twenty-five. T. M. Body receiving the ball essayed a drop at goal which hit the crossbar, H. T. Wilson following up secured the ball and just got over, D. M. Stone converting. After the kick-out play settled down again in the R.I.E.C. quarters till Allan getting clean away beat Body for pace and scored after dribbling run; the kick failed. The Hospital were now playing well together and outlasting the College men put on another try; after some passing between D. Stone, M. B. Scott, and A. O'Neill, the latter scored, Stone converting. The Hospital pressed hard till time was called, but could not score again, and so won by 13 points to 3. Stone made a promising début in the three-quarter line in this match, while O'Neill, Neligan, and Hamilton were also in good form. Team:

E. S. Marshall, T. M. Body, G. Drury, J. B. Gillies, D. M. Stone, W. H. Hamilton, T. O'Neill, A. O'Neill, H. T. Wilson, A. R. Nelligan, R. Miller, H. E. Stanger-Leathes, J. M. Plews, F. Harvey, M. B. Scott.

ASSOCIATION FOOTBALL CLUB.

ST. BART.'S *v.* OLD CRANLEIGHANS.

This match was played at Winchmore Hill, on November 3rd, in fine weather. The visitors kicked off from the Pavilion end; from the kick-off Bart.'s got possession, and after a nice bit of combination between the three insides, Marrett scored a good goal. After this success Bart.'s took it easy for some time. The visitors then scored through the inside right, and shortly after we got ahead through Fernie, who scored from a corner.

This was all the scoring done in the first half, the whistle sounding shortly after for half-time with the score two to one in our favour.

The second half opened very fast, and after about ten minutes' play the visitors equalised. Bart.'s then made great efforts to get ahead again, but each time were driven back. Before long the Old Cranleighans added two more goals through the centre and outside left, and the game ended in the visitors' favour with the score—Old Cranleighans 4, St. Bart.'s 2.

For Bart.'s, Orton at back and Godsell at centre half played very sound games.

The following represented Bart.'s:

H. H. Butcher (goal); L. Orton, F. Gröne (backs); G. W. Miller, T. W. Godsell, V. C. Upton (half-backs); T. A. Kilby, H. N. Marrett, C. O'Brien, V. G. Ward, and C. H. Fernie (forwards).

WELLINGBOROUGH MASTERS *v.* ST. BART.'S.

A weak side journeyed to Wellingborough, on Tuesday, November 6th, to play the annual match against the masters of Wellingborough Grammar School.

The match was played in most disagreeable weather, and in the end Bart.'s had to acknowledge defeat by six goals to two. The home side were superior to the visitors at every point, and very good displays were given by Fryes in the centre, who got four out of the six goals scored for Wellingborough; the inside right, who got the other two, and Williams at back.

For Bart.'s Ward and O'Brien scored the goals, Ward playing a very good game all through, and had he had any help from the other forwards might have put a very different complexion on the result. A. Goodman (sub.) in goal also played well, and Godsell and Tourman, centre half and left half respectively, worked well. The following represented Bart.'s:

A. Goodman (goal); F. Gröne, N. E. Waterfield (backs); V. C. Upton, T. W. Godsell, N. O. Tourman (half-backs); T. A. Kilby, F. W. Jackson, C. O'Brien, C. H. Fernie (forwards).

After the match Bart.'s were entertained by the masters. We sat down to a very excellent dinner. After dinner we spent a short time in the usual way, and left in time to catch the 7.40 back to town, having spent a very enjoyable day, if the match itself is left out of consideration. Every praise and thanks is due to our opponents, who so hospitably entertained us, and we shall look forward to next year, when we hope to remove the only blemish on the day's enjoyment by reversing the result of the match.

ST. BART.'S *v.* OLD CHOLMLEIANS.

Played at Walthamstow on November 10th, and ended in a win for the Hospital by 2 goals to none.

In the first half play was very even, and just before the end Marrett scored for the Hospital. This was the extent of the scoring in the first moiety, and we crossed over with a lead of a goal to *nil*.

In the second half play was of the give and take order, both sides attacking in turn, but neither was able to gain any advantage. Towards the end, however, Bart.'s got together a little better, and Marrett added a second point for the Hospital, and the whistle sounded, leaving us winners as above stated.

For the losers P. W. Oscroft played well at centre half.

Bart.'s were represented as follows:

H. H. Butcher (goal); L. Orton, F. Gröne (backs); V. C. Upton, T. W. Godsell, N. S. Waterfield (halves); G. W. Miller, R. C. Berryman, C. O'Brien, V. G. Ward, H. N. Marrett (forwards).

RIFLE CLUB.

Two lessons learnt from the war in South Africa are the value of accurate rifle-fire and the advantage of great mobility; for comparatively undisciplined forces, well posted, kept at bay some of our finest regiments, and then slipped away, when the tables were being turned on them, almost unmolested.

It is difficult to imagine the consternation that would be caused by the sudden landing of a hostile force on our shores within striking distance of the heart of the Empire. Such a contingency might happen should the fleet be temporarily engaged elsewhere. Such a force, however, would be more of the nature of a raid without heavy baggage. To prevent such a force, once landed, marching on the metropolis, thousands of troops would have to be rapidly thrown between. Experiments with the object of testing this were performed in August, a large body of cyclists being mobilised on the southern roads between London and Brighton. These experiments definitely showed that within a few hours large numbers of men mounted on bicycles could be concentrated on the numerous southern roads, and proved the value of the extreme mobility of the cycle in a good country. That alone would, however, be insufficient unless the defenders could also hold the enemy in check by rifle-fire.

It is, therefore, every able-bodied man's duty to familiarise himself with the use of a rifle; but, unfortunately, at present this is apparently beyond the hope of immediate fulfilment, the difficulties being those of suitable ranges in the main, and the others the lack of rifle clubs.

We, however, are more fortunate, in that we posses a rifle club as one of our Amalgamated Clubs, and all members, therefore, of the latter can, if they choose, learn how to shoot; for the question of a range is solved, since during the Summer Session we have on certain days of the week targets reserved for the use of the Club at Runnemede, near where formerly the first charter of our liberties was signed.

It therefore behoves us who can to make use of our opportunities. Besides, there are many worse methods of spending a summer afternoon than going to Runnemede to shoot.

A plentiful supply of ammunition can always be obtained at moderate rates, and at the end of the Summer Session there is a match day, in which numerous prizes are offered.

In our last number a short account was given of this year's meeting, which took place on a lovely day with a slight breeze, when one felt it was good to be out of town.

One of the objections raised against rifle clubs was that they would interfere with the numbers of volunteers. This, however, is not certain. A few years' training in a good corps ensures habits of discipline which are invaluable.

Finally let us appeal to the Freshmen amongst us, many of whom, no doubt, were members of a school or 'varsity corps, at least to keep up their practice with the rifle, and so remain useful and valuable members of the community, whilst at the same time they reap the advantages of an accurate eye and a steady hand; for, even with modern weapons, rifle-shooting is not merely a case of "you push the button, and we do the rest."

The Annual General Meeting was held in the Demonstrators' Room on Wednesday, November 21st, at half-past twelve. Mr. Waring (the President of the Club) was in the chair, and there were sixteen members present.

The minutes of the last Annual General Meeting having been read and confirmed, the Secretary presented the Committee's Annual Report and Balance-sheet for the past year, which were adopted, and, on the proposal of Mr. D. Finigan, seconded by Mr. P. A. Dingle, entered on the minutes of the Club.

Mr. Waring then proposed from the chair a vote of thanks to the retiring officers. This was seconded by Mr. C. R. Verling Brown, and carried unanimously.

The following officers were then elected for the ensuing year:

President.—Mr. H. J. Waring.

Vice-Presidents.—Mr. Howard Marsh, Mr. Edkins, Mr. Phillips, and Mr. H. Mundy.

Captain.—Norman Maclaren.

Secretary.—P. A. Dingle.

Committee.—A. C. Brown, D. Finigan, and — Wright.

A vote of thanks was passed to Mr. Waring for taking the chair, and the meeting terminated.

The Prize Meeting was held on Wednesday, July 14th, 1900.

List of prize winners:

Competition I.

Prize 1.—J. Morris. Prize 2.—W. T. D. Mart.

Competition II.

Prize 1.—A. C. Brown. Prize 2.—J. R. Morris. Prize 3.—C. H. Fielding.

Competition III.

Prize 1 and Benetfink Challenge Cup.—C. R. Verling Brown. Prize 2.—Norman Maclaren.

Competition IV.

Prize 1 and Waring Challenge Cup.—D. Finigan.

Competition V.

Prize 1.—J. C. Newman.

Competition VI.

Prize 1.—Mr. H. Mundy.

Calendar.

December, 1900.

Nov. 29.—Abernethian Society at 8 p.m., Mr. Langdon Brown M.B.
" 30.—Dr. Hensley's Clinic.
Dr. Gee and Mr. Langton's duty.
Dec. 1.—Association F. C. *v.* Old Cholmleians at Winchmore Hill.
Rugby F. C. *v.* Old Leysians at Wembley Park.
Hockey Club *v.* Crystal Palace at Crystal Palace.
" 3.—London M.D. and M.S. examinations begin.
" 4.—London B.S. examination begins.
Sir Dyce Duckworth and Mr. Marsh's duty.
" 5.—Mr. Walsham's Clinic.
Association F. C. *v.* University College Hospital (League Match) at Winchmore Hill.
" 6.—Abernethian Society, 8 p.m., Dr. Morrison "Cæsarean Section."
" 7.—Sir T. Lauder Brunton's Clinic.
Dr. Hensley and Mr. Butlin's duty.
" 8.—Association F. C. *v.* Tonbridge at Tonbridge.
Rugby F. C. *v.* O.M.T.s at Richmond.
Hockey Club *v.* Hitchin at Winchmore Hill.
" 10.—Cambridge 2nd M.B. examination begins.
" 11.—Cambridge 3rd M.B. examination begins.
Sir T. Lauder Brunton and Mr. Walsham's duty.
" 12.—Mr. Walsham's Clinic.
Association F. C. *v.* St. Thomas's Hospital (League Match) at Chiswick.
" 13.—Hockey Club *v.* Tunbridge Wells at Tunbridge Wells.
Abernethian Society at 8 p.m., Dr. Drysdale, "Leukæmia and Pseudo-leukæmia."
" 14.—Dr. Church's Clinic.
Dr. Church and Mr. Willett's duty.
" 15.—Association F. C. *v.* Idlers at Winchmore Hill.
Rugby F. C. *v.* Streatham at Winchmore Hill.
Hockey Club *v.* Tulse Hill at Tulse Hill.
" 18.—Dr. Gee and Mr. Langton's duty.
Association F. C. *v.* St. Mary's Hospital (League Match) at Winchmore Hill.
" 21.—WINTER SESSION DIVIDES.
" 22.—Sir Dyce Duckworth and Mr. Marsh's duty.
" 25.—CHRISTMAS DAY. Dr. Hensley and Mr. Butlin's duty.
" 28.—Sir T. Lauder Brunton and Mr. Walsham's duty.

New Addresses.

DRYSDALE, J. H., 11, Devonshire Place, W.

* * *

GARSTANG, Englefield, Delamer Road, Bowdon, Cheshire.

* * *

HERRINGHAM, W. P., 40, Wimpole Street, W.

* * *

MAXWELL, J. P., E.P. Mission, Tainanfoo, Formosa, *viâ* Hongkong.

* * *

NUNN, J. H. F., Roose House, 3, Upper Tooting Road, S.W.

* * *

WARE, A. M., 18, St. George's Terrace, Gloucester Road, S.W.

* * *

WHITE, C. P., 2, Blandford Gardens, Woodhouse Lane, Leeds.

Appointments.

ARMITAGE, R., M.R.C.S., L.R.C.P., appointed Senior House Surgeon to the Cheltenham General Hospital.

* * *

MAXWELL, J. L., M.D.(London), appointed Surgeon to the Tainanfoo Mission Hospital.

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PARAMORE, R. H., M.R.C.S., L.R.C.P., appointed House Surgeon to the Royal Infirmary, Windsor.

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POWELL, J. C., M.R.C.S., L.R.C.P., appointed Surgeon to the ss. "Buluwayo."

* * *

RHODES, J. H., M.B.(London), appointed Senior Resident Medical Officer to the London Temperance Hospital.

* * *

ROWLAND, P. W., M.B.(London), appointed Resident Surgeon at the Royal Sea Bathing Hospital, Margate.

* * *

TURNER, PERCY, M.B., B.S.(Dunelm), D.P.H.(Oxon.), appointed Superintendent of the Salvation Army Medical Department in India, with headquarters at the Catherine Booth Settlement, Nagercwil.

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WINDER, M. G., M.R.C.S., L.R.C.P., appointed House Surgeon at the General Hospital, Colchester.

Examinations.

UNIVERSITY OF LONDON.

M.B. Examination, Pass List.

Second Division.—T. H. Gandy, A. E. J. Lister, E. M. Niall, T. M. Pearce, W. Smith, R. Waterhouse.

Conjoint Board.

The following have completed the Examinations for the diplomas of M.R.C.S., L.R.C.P.:—E. W. J. Ladell, J. A. Lloyd, L. J. Picton, H. Scanlon, A. B. Brown, C. E. Hogan, R. T. Worthington, J. C. Marshall, J. C. Newman, C. E. West, F. E. Brunner, P. M. Perkins, E. H. Hunt, C. R. V. Brown, E. M. B. Payne, E. V. Lindsay, D. M. Johnston, H. A. Colwell, A. R. Tweedie, S. Mason, J. S. Gayner.

Births.

SCRASE.—On November 20th, at 121, West End Lane, West Hampstead, the wife of F. E. Scrase, F.R.C.S., of a son.

WALTER.—On November 24th, at 282, Lytham Road, South Shore, Blackpool, the wife of R. A. Walter, M.R.C.S., L.R.C.P., of a son.

ACKNOWLEDGMENTS.—*London Hospital Gazette, St. Mary's Hospital Gazette, The Nursing Record, The Nurses' Journal, The Stethoscope, St. Thomas's Hospital Gazette, Guy's Hospital Gazette, Charing Cross Hospital Gazette, Middlesex Hospital Gazette, The Broadway, St. George's Hospital Gazette, The Polyclinic, The Medical Review, The Practitioner, University College Magazine, The Student, The Hospital, Transactions of the Students' Society of Dental Hospital, The Therapist, The Medical Magazine, University College of Wales Magazine, Magazine of the London School of Medicine for Women, The New Zealand Medical Journal, Durham University Medical Gazette, Giornale della Reale Società Italiana d' Igiene, L'Echo Médicale du Nord.*